

**METHOD OF PRODUCING MOLECULAR PROFILES OF  
ISOPARAFFINS BY LOW EMITTER CURRENT FIELD IONIZATION  
MASS SPECTROMETRY (LAW 908)**

**ABSTRACT OF THE DISCLOSURE**

The present invention is devoted to an analytical method for directly determining carbon number and molecular weight distributions of isoparaffin mixtures. The analytical means uses low emitter-current field-ionization mass spectroscopy to substantially reduced or eliminated molecular ion fragmentation for isoparaffins, which allows direct measurement of isoparaffin molecular ions for their distributions. The analytical means is capable of directly characterizing isobutane to  $C_{50}^+$  isoparaffins, covering naphtha to gas oil ranges.